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The Fort Frederick Barrel Well

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Underwater Archaeology

The Fort Frederick Barrel Well

By James D. Spirek

During the Port Royal Sound Survey, a barrel well was recorded adjacent to Fort Frederick (38BU102/1100) on the Beaufort River (See *Legacy* 2(3), Dec. 1997, p.23). The barrel well had been previously identified by Christopher Judge of the South Carolina Heritage Trust Program of the Department of Natural Resources and archaeologist James Legg, who in turn brought it to our attention. The barrel well was exposed along the river bank due to the erosive forces of water and waves.

Barrel well at Fort Frederick during the survey in October 1997. (*SCIAA photo*)

During 1726, construction commenced to erect a permanent fort on Port Royal Island to protect the town of Beaufort and the surrounding area. Work on Fort Prince Federick was especially slow and after five years of work the bastions were only partially completed. The work was finally completed in 1735, but the fort had fallen into disrepair by 1740 and was sporadically manned through the 1740s and 1750s. The walls, fabricated from a mixture of lime, shell, and sand, were 5 feet high and 5 feet thick at the top. During the Civil War, the fort was on the property of the Smith plantation, called Old Fort plantation. By this time, local legend suggested the fort was built by the Spanish. Union forces occupied the plantation and used the grounds and houses as an encampment, hospital, and schools for the recently freed slaves. Today, the ruins of the fort, with portions of it's walls in the Beaufort River, are on the grounds of the Naval Hospital.

The barrel well is approximately 52 meters upriver of the north tabby wall of the fort. The well was constructed by digging down to the water table and then placing barrels atop one another to the desired level and then backfilling. The structure may be associated with the original use of the fort, the plantation period, or with the occupying Federal troops. The uppermost barrel is partially exposed and appears to be fairly complete, although slightly distorted into a oblong shape. The barrel is approximately 65 cm in diameter and is made up of 28 staves that are 16 mm thick. The croze grooves for the header piece(s) are visible along the upper part of the staves. A wooden post, 20 cm in diameter, runs through the center of the barrel. While visiting the site during low tide, waves, caused by passing boat wakes, were crashing into the barrel .

After initially assessing the site environment, we decided to stabilize the well to prevent, or at least slow, further erosion. On our next visit, we placed twenty sandbags and GeoFabric™ around and over the well with the help of sport diver George Pledger. This endeavor was meant simply to slow down the erosion process and to give us some time to plan a long-term solution. At each subsequent visit to the well, we have found the sandbags and fabric in disarray. We suspect that curious beachcombers may move the bags and fabric to look at what is being protected, or and the more likely reason, is that during the daily tidal fluctuation waves generated by passing boat wakes pound into and dislodge the

protective berm. On my last visit, not only were the bags and fabric scattered, but the barrel staves were exposed about a foot above the ground, and now are more vulnerable to damage. Whatever the cause or causes for the berm's disintegration, erosion caused by boat wakes and natural processes will continue at the site and planning is necessary to develop a solution to protecting the barrel from the elements.

There are several management options available to us, but the more feasible are, 1) stabilization, or 2) excavation and then stabilization. The first option is to try and stabilize the barrel well and forestall its eventual disintegration with a combination of sandbags, GeoFabric™, and GeoWeb™ to control erosion. The second plan is for the Underwater Archaeology Division to perform a rescue operation to save the exposed barrel. We would excavate the interior and exterior of the exposed barrel and then disassemble it stave by stave. Incidental artifacts will also be retrieved that may aid in identifying the operational date of the well. After removing the barrel and associated artifacts, these components will be brought back to the Institute's conservation facilities. The staves, and other wooden objects, will be conserved using polyetheleneglycol (PEG) to preserve the wood. Other types of artifacts will be treated by appropriate methods. Following the excavation, and if another barrel is below the visible one, we would then place sediment controls at the site to try and forestall the erosion of the lower barrel.

Fort Frederick barrel well staves stabilized with sandbags and GeoFabric™. (*SCIAA photo*)

Sandbags and GeoFabric™ displaced from barrel well. (*SCIAA photo*)

A rescue operation will preserve the barrel and other artifacts before they slip into the Beaufort River. In order to conserve the wooden barrel staves, however, one piece of conservation equipment is required. A special circulating pump, to constantly move the PEG solution around the staves, needs to be acquired. The desired pump is a 4 HP Honda-Powered 2" Semi-Trash Pump or equivalent. The estimated cost of the pump is $430.00. If you would like to assist in this conservation project with a tax deductible contribution, please contact Jim Spirek at (803) 777-8170 or e-mail at SpirekJ@Garnet.cla.sc.edu. After the conservation treatment is completed the barrel will be either curated in Columbia, or returned to Beaufort for display.